AMENDMENTS TO THE CLAIMS

CLAIMS 1-43 (CANCELLED)

44. (New) A waveform shaping method comprising:

a sampling step for generating a sampling signal by sampling an input signal using a sampling clock which is faster than a data speed of the input signal; and

a waveform shaping step for processing the sampling signal, so that a pulse in the input signal, recognized from the sampling signal, is shaped,

the waveform shaping step being such that, when the input signal is a pulse signal for use in a fixed-pulse-width method, the pulse signal being generated through a signal processing carried out with respect to an original pulse signal on which the input signal is based, waveform shaping is carried out by making that pulse width of the input signal which is recognized from the sampling signal closer to a predetermined pulse width, irrespective of the pulse width.

45. (New) The waveform shaping method as set forth in claim 44, wherein

the predetermined pulse width is standardized, irrespective of the pulse width of the input signal, taking into account a level of distortion in the pulse width, the distortion mainly attributed to the signal processing.

46. (New) The waveform shaping method as set forth in claim 44, wherein

the predetermined pulse width is a value close to a lower limit value of a possible pulse width range of the input signal.

47. (New) The waveform shaping method as set forth in claim 44, wherein

if the input signal contains information related to the pulse width of the input signal, the information is read out, and the predetermined pulse width is determined based on the information.

48. (New) A waveform shaping method comprising:

a sampling step for generating a sampling signal by sampling an input signal using a sampling clock which is faster than a data speed of the input signal; and

a waveform shaping step for processing the sampling signal, so that a pulse in the input signal, recognized from the sampling signal, is shaped,

the waveform shaping step being such that, when the input signal is a pulse signal which is generated through a signal processing carried out with respect to an original pulse signal on which the input signal is based, waveform shaping is carried out by shortening, by a predetermined value, that pulse width of the input signal which is recognized from the sampling signal, irrespective of the pulse width.

49. (New) The waveform shaping method as set forth in claim 48, wherein

the predetermined value is determined based on (i) a lower limit value of a possible pulse width range of the input signal, and (ii) an inverse number of a sampling clock frequency, and the predetermined value is set less than the lower limit value.

50. (New) The waveform shaping method as set forth in claim 48, wherein

if the input signal contains information related to the pulse width of the input signal, the predetermined value is set smaller than the pulse width read out from the information.

51. (New) A waveform shaping method comprising:

a sampling step for generating a sampling signal by sampling an input signal using a sampling clock which is faster than a data speed of the input signal; and

a waveform shaping step for processing the sampling signal, so that a pulse in the input signal, recognized from the sampling signal, is shaped,

the waveform shaping step being such that, when the input signal is a pulse signal which is generated through a signal processing carried out with respect to an original pulse signal on which the input signal is based, waveform shaping is carried out by lengthening, by a predetermined value, that pulse width of the input signal which is recognized from the sampling signal, irrespective of the pulse width.

52. (New) The waveform shaping method as set forth in claim 48, wherein

the predetermined value is standardized, irrespective of the pulse width of the input signal, in consideration of a level of distortion in the pulse width, the distortion mainly attributed to the signal processing.

53. (New) The waveform shaping method as set forth in claim 51, wherein

the predetermined value is standardized, irrespective of the pulse width of the input signal, in consideration of a level of distortion in the pulse width, the distortion mainly attributed to the signal processing.

54. (New) A waveform shaping method comprising:

a sampling step for generating a sampling signal by sampling an input signal using a sampling clock which is faster than a data speed of the input signal; and

a waveform shaping step for processing the sampling signal, so that a pulse in the input signal, recognized from the sampling signal, is shaped,

the waveform shaping step being such that, when the input signal is a pulse signal for use in a fixed-pulse-width method, the pulse signal being generated through a signal processing carried out with respect to an original pulse signal on which the input signal is based, waveform shaping is carried out by making that pulse width of the input signal which is recognized from the sampling signal closer to a minimum pulse width of the input signal in the sampling signal, irrespective of the pulse width.

55. (New) A waveform shaping method comprising:

a sampling step for generating a sampling signal by sampling an input signal using a sampling clock which is faster than a data speed of the input signal; and

a waveform shaping step for processing the sampling signal, so that a pulse in the input signal, recognized from the sampling signal, is shaped,

the waveform shaping step being such that, when the input signal is a pulse signal for use in a fixed-pulse-width method, the pulse signal being generated through a signal processing carried out with respect to an original pulse signal on which the input signal is based, waveform shaping is carried out by making that pulse width of the input signal which is recognized from the sampling signal equal to or smaller than a minimum pulse width of the input signal in the sampling signal, irrespective of the pulse width.

56. (New) A waveform shaping method comprising:

a sampling step for generating a sampling signal by sampling an input signal using a sampling clock which is faster than a data speed of the input signal; and

a waveform shaping step for processing the sampling signal, so that a pulse in the input signal, recognized from the sampling signal, is shaped,

the waveform shaping step being such that, when the input signal is a pulse signal for use in a fixed-pulse-width method, the pulse signal being generated through a signal processing carried out with respect to an original pulse signal on which the input signal is based, waveform shaping is carried out by making that pulse width of the input signal which is recognized from the sampling signal equal to an inverse number of the sampling clock frequency, irrespective of the pulse width.

57. (New) A waveform shaping method comprising:

a sampling step for generating a sampling signal by sampling an input signal using a sampling clock which is faster than a data speed of the input signal; and

a waveform shaping step for processing the sampling signal, so that a pulse in the input signal, recognized from the sampling signal, is shaped,

the waveform shaping step being such that (I) a no-pulse period, which is recognized from the sampling signal, is detected, and (II) if the no-pulse period is less than a setting value, waveform shaping is so carried out, irrespective of a pulse width, as to modify the no-pulse period to the setting value by (i) shifting a position of a pulse adjacent to the no-pulse period or (ii) shaping the pulse.

58. (New) The waveform shaping method as set forth in claim 57, wherein

when the input signal is a pulse signal generated through a signal processing carried out with respect to an original pulse signal on which the input signal is based, the setting value is determined, taking into account a level of distortion in the pulse width, the distortion mainly attributed to the signal processing.

59. (New) The waveform shaping method as set forth in claim 57, wherein

if the input signal contains information related to a pulse interval of the input signal, the setting value is set based on the pulse interval read out from the information.

60. (New) The waveform shaping method as set forth in any one of claims 44, 48, 51, and 54 through 57, wherein:

in the waveform shaping step, waveform shaping is carried out by partially inverting bit string ~~data~~ of the sampling signal.

61. (New) The waveform shaping method as set forth in any one of claims 44, 48, 51, and 54 through 57, wherein:

in the waveform shaping step, waveform shaping is carried out by processing a part of the sampling signal, corresponding to a trailing side of the pulse in the input signal.

62. (New) A waveform shaping method comprising:

a sampling step for generating a sampling signal by sampling an input signal using a sampling clock which is faster than a data speed of the input signal; and

a waveform shaping step for processing the sampling signal, so that a pulse in the input signal, recognized from the sampling signal, is shaped,

the input signal being a pulse signal generated through a signal processing carried out with respect to an original pulse signal on which the input signal is based,

the waveform shaping step being such that (I) a pulse width recognized from the sampling signal is compared with (i) a first reference value, and (ii) a second reference value which is larger than the first reference value by a constant value, and (II) if the pulse width is equal to or larger than the second reference value, the pulse width is reduced by the constant value, irrespective of the pulse width.

63. (New) A waveform shaping method comprising:

a sampling step for generating a sampling signal by sampling an input signal using a sampling clock which is faster than a data speed of the input signal; and

a waveform shaping step for processing the sampling signal, so that a pulse in the input signal, recognized from the sampling signal, is shaped,

the input signal being a pulse signal generated through a signal processing carried out with respect to an original pulse signal on which the input signal is based,

the waveform shaping step being such that (I) a pulse width recognized from the sampling signal is compared with (i) a first reference value, and (ii) a second reference value which is larger than the first reference value by a constant value, and (II) if the pulse width is larger than the first reference value but less than the second reference value, the pulse width is reduced, irrespective of the pulse width, so that the pulse width is made as close to the first reference value as possible.

64. (New) A waveform shaping method comprising:

a sampling step for generating a sampling signal by sampling an input signal using a sampling clock which is faster than a data speed of the input signal; and

a waveform shaping step for processing the sampling signal, so that a pulse in the input signal, recognized from the sampling signal, is shaped,

the input signal being a pulse signal generated through a signal processing carried out with respect to an original pulse signal on which the input signal is based,

the waveform shaping step being such that (I) a pulse width recognized from the sampling signal is compared with (i) a first reference value, and (ii) a second reference value which is larger than the first reference value by a constant value, and (II) the pulse width is not reduced if the pulse width is equal to or less than the first reference value.

65. (New) The waveform shaping method as set forth in claim 62, wherein

in the waveform shaping step, a pulse interval recognized from the sampling signal is compared with an interval reference value, and if the pulse interval is less than the interval reference value, the pulse interval is lengthened, irrespective of the pulse width, so that the pulse interval is made as close to the interval reference value as possible, the pulse interval being a width of a period having no pulse.

66. (New) The waveform shaping method as set forth in claim 63, wherein

in the waveform shaping step, a pulse interval recognized from the sampling signal is compared with an interval reference value, and if the pulse interval is less than the interval reference value, the pulse interval is lengthened, irrespective of the pulse width, so that the pulse interval is made as close to the interval reference value as possible, the pulse interval being a width of a period having no pulse.

67. (New) The waveform shaping method as set forth in claim 64, wherein

in the waveform shaping step, a pulse interval recognized from the sampling signal is compared with an interval reference value, and if the pulse interval is less than the interval reference value, the pulse interval is lengthened, irrespective of the pulse width, so that the pulse interval is made as close to the interval reference value as possible, the pulse interval being a width of a period having no pulse.

68. (New) The waveform shaping method as set forth in claim 65, wherein

the pulse interval is lengthened by shifting a position of a pulse adjacent to the pulse interval.

69. (New) The waveform shaping method as set forth in claim 66, wherein

the pulse interval is lengthened by shifting a position of a pulse adjacent to the pulse interval.

70. (New) The waveform shaping method as set forth in claim 67, wherein

the pulse interval is lengthened by shifting a position of a pulse adjacent to the pulse interval.

71. (New) A waveform shaping method comprising:

a sampling step for generating a sampling signal by sampling an input signal using a sampling clock which is faster than a data speed of the input signal; and

a waveform shaping step for processing the sampling signal, so that a pulse in the input signal, recognized from the sampling signal, is shaped,

the input signal being a pulse signal generated through a signal processing carried out with respect to an original pulse signal on which the input signal is based,

the waveform shaping step being such that (I) a pulse interval recognized from the sampling signal is compared with an interval reference value, and (II) if the pulse interval is less than the interval reference value, the pulse interval is lengthened, irrespective of a pulse width, by (i)

shifting a position of a pulse adjacent to the no-pulse period or (ii) shaping the pulse so that the pulse interval is made as close to the interval reference value as possible, the pulse interval being a width of a period having no pulse.

72. (New) The waveform shaping method as set forth in claim 71, wherein

in the waveform shaping step, a pulse width recognized from the sampling signal is compared with a first reference value, and with a second reference value which is larger than the first reference value by a constant value; and

if the pulse width is equal to or larger than the second reference value, the pulse width is reduced by the constant value, irrespective of the pulse width.

73. (New) The waveform shaping method as set forth in claim 71, wherein

if the pulse width is larger than the first reference value but less than the second reference value, the pulse width is reduced, so that the pulse width is made as close to the first reference value as possible.

74. (New) The waveform shaping method as set forth in claim 71, wherein

the pulse width is not reduced if the pulse width is equal to or less than the first reference value.

75. (New) The waveform shaping method as set forth in any one of claims 65 through 67, or 71, wherein

the interval reference value is determined, taking into account a level of distortion in a pulse width, the distortion mainly attributed to the signal processing.

76. (New) The waveform shaping method as set forth in any one of claims 65 through 67, or 71, wherein

if the input signal contains information related to the pulse interval of the input signal, the interval reference value is set based on the pulse interval read out from the information.

77. (New) The waveform shaping method as set forth in any one of claims 62 through 64, wherein

the first reference value is a value close to a lower limit value of a possible pulse width range.

78. (New) The waveform shaping method as set forth in any one of claims 62 through 64, wherein

if the input signal contains information related to the pulse width of the input signal, the information is read out, and the first reference value is determined based on the information.

79. (New) The waveform shaping method as set forth in any one of claims 62 through 64, wherein

the constant value is determined based on (i) a lower limit value of a possible pulse width range of the input signal, and (ii) an inverse number of a sampling clock frequency, and the constant value is set less than the lower limit value.

80. (New) The waveform shaping method as set forth in any one of claims 62 through 64, wherein

if the input signal contains information related to the pulse width of the input signal, the constant value is set smaller than the pulse width read out from the information.

81. (New) A waveform shaping method comprising:

a sampling step for generating a sampling signal by sampling an input signal using a sampling clock which is faster than a data speed of the input signal; and

a waveform shaping step for processing the sampling signal, so that a pulse in the input signal, recognized from the sampling signal, is shaped, wherein

the input signal being a pulse signal, of a fixed-pulse-width method, being generated through a signal processing carried out with respect to an original pulse signal on which the input signal is based,

the waveform shaping step being such that (I) a width of the pulse in the input signal is compared with a reference range determined in accordance with the width of the pulse, and (II) if

the width of the pulse is out of the reference range, waveform shaping is so carried out as to make the width of the pulse fall within the reference range.

82. (New) The waveform shaping method as set forth in claim 48 or 51, wherein

the waveform shaping of the pulse width by the predetermined value is carried out only with respect to a rising portion of the pulse of the input signal, or only with respect to a falling portion of the pulse of the input signal.

83. (New) The waveform shaping method as set forth in claim 62, wherein

the reduction of the pulse width by the constant value is carried out only with respect to a rising portion of the pulse of the input signal, or only with respect to a falling portion of the pulse of the input signal.

84. (New) A waveform shaping device comprising:

sampling means; and

waveform shaping means, wherein

the sampling means samples a pulse signal at a sampling period shorter than a minimum pulse width and a minimum pulse interval in the pulse signal, so as to generate a sampling signal which is a discrete symbol string for replacing the pulse signal, the pulse signal being generated by carrying out a signal processing with respect to an original pulse signal,

the waveform shaping means compares a first symbol count with a first reference value and a second reference value which is a constant value larger than the first reference value, where (i)

the first symbol count is a number of symbols in a first symbol string having been replaced for a pulse-existing period, and (ii) a second symbol count is a number of symbols in a second symbol string having been replaced for a no-pulse period adjacent to the pulse-existing period, and

if the first symbol count is equal to or more than the second reference value, the waveform shaping means partially replaces the first symbol string with the second symbol string by the constant value, irrespective of a pulse width of the pulse signal generated through the signal processing, so as to shorten the pulse-existing period.

85. (New) A waveform shaping device comprising:

sampling means; and

waveform shaping means, wherein

the sampling means samples a pulse signal at a sampling period shorter than a minimum pulse width and a minimum pulse interval in the pulse signal, so as to generate a sampling signal which is a discrete symbol string for replacing the pulse signal, the pulse signal being generated by carrying out a signal processing with respect to an original pulse signal,

the waveform shaping means compares a second symbol count with an interval reference value, where (i) the first symbol count is a number of symbols in a first symbol string having been replaced for a pulse-existing period, and (ii) a second symbol count is a number of symbols in a second symbol string having been replaced for a no-pulse period adjacent to the pulse-existing period, and

if the second symbol count is less than the interval reference value, the waveform shaping means partially replaces the first symbol string with the second symbol string in such a manner

that the second symbol count is equal to the interval reference value, irrespective of a pulse width of the pulse signal generated through the signal processing, so as to lengthen the no-pulse period.

86. (New) An electronic device comprising:

the waveform shaping device set forth in claim 84 or 85; and a receiving device for receiving a signal based on an original pulse signal, and for generating the pulse signal.

87. (New) An electronic device comprising:

the waveform shaping device set forth in claim 84 or 85;

a remote control for generating an original pulse signal; and

a receiving device for receiving a signal which is output from the remote control based on the original pulse signal, and for generating the pulse signal.

88. (New) A waveform shaping program for causing a computer to execute steps included in a waveform shaping method,

wherein:

the waveform shaping method includes:

a sampling step for generating a sampling signal by sampling an input signal using a sampling clock which is faster than a data speed of the input signal; and

a waveform shaping step for processing the sampling signal, so that a pulse in the input signal, recognized from the sampling signal, is shaped,

the waveform shaping step being such that, when the input signal is a pulse signal for use in a fixed-pulse-width method, the pulse signal being generated through a signal processing carried out with respect to an original pulse signal on which the input signal is based, waveform shaping is carried out by making that pulse width of the input signal which is recognized from the sampling signal closer to a predetermined pulse width, irrespective of the pulse width.

89. (New) A waveform shaping program for causing a computer to execute steps included in a waveform shaping method,

wherein:

the waveform shaping method includes:

the sampling step for generating a sampling signal by sampling an input signal using a sampling clock which is faster than a data speed of the input signal; and

the waveform shaping step for processing the sampling signal, so that a pulse in the input signal, recognized from the sampling signal, is shaped,

the waveform shaping step being such that, when the input signal is a pulse signal which is generated through a signal processing carried out with respect to an original pulse signal on which the input signal is based, waveform shaping is carried out by shortening, by a predetermined value, that pulse width of the input signal which is recognized from the sampling signal, irrespective of the pulse width.

90. (New) A waveform shaping program for causing a computer to execute the steps of a waveform shaping method,

wherein:

the waveform shaping method includes:

the sampling step for generating a sampling signal by sampling an input signal using a sampling clock which is faster than a data speed of the input signal; and

the waveform shaping step for processing the sampling signal, so that a pulse in the input signal, recognized from the sampling signal, is shaped,

the waveform shaping step being such that, when the input signal is a pulse signal which is generated through a signal processing carried out with respect to an original pulse signal on which the input signal is based, waveform shaping is carried out by lengthening, by a predetermined value, that pulse width of the input signal which is recognized from the sampling signal, irrespective of the pulse width.

91. (New) A waveform shaping program for causing a computer to execute the steps of a waveform shaping method,

wherein:

the waveform shaping method includes:

the sampling step for generating a sampling signal by sampling an input signal using a sampling clock which is faster than a data speed of the input signal; and

the waveform shaping step for processing the sampling signal, so that a pulse in the input signal, recognized from the sampling signal, is shaped,

the waveform shaping step being such that, when the input signal is a pulse signal for use in a fixed-pulse-width method, the pulse signal being generated through a signal processing carried out with respect to an original pulse signal on which the input signal is based, waveform shaping is carried out by making that pulse width of the input signal which is recognized from the sampling signal closer to a minimum pulse width of the input signal in the sampling signal, irrespective of the pulse width.

92. (New) A waveform shaping program for causing a computer to execute the steps of a waveform shaping method,

wherein:

the waveform shaping method includes:

the sampling step for generating a sampling signal by sampling an input signal using a sampling clock which is faster than a data speed of the input signal; and

the waveform shaping step for processing the sampling signal, so that a pulse in the input signal, recognized from the sampling signal, is shaped,

the waveform shaping step being such that, when the input signal is a pulse signal for use in a fixed-pulse-width method, the pulse signal being generated through a signal processing carried out with respect to an original pulse signal on which the input signal is based, waveform shaping is carried out by making that pulse width of the input signal which is recognized from the sampling signal equal to or smaller than a minimum pulse width of the input signal in the sampling signal, irrespective of the pulse width.

93. (New) A waveform shaping program for causing a computer to execute the steps of a waveform shaping method,

wherein:

the waveform shaping method includes:

the sampling step for generating a sampling signal by sampling an input signal using a sampling clock which is faster than a data speed of the input signal; and

the waveform shaping step for processing the sampling signal, so that a pulse in the input signal, recognized from the sampling signal, is shaped,

the waveform shaping step being such that, when the input signal is a pulse signal for use in a fixed-pulse-width method, the pulse signal being generated through a signal processing carried out with respect to an original pulse signal on which the input signal is based, waveform shaping is carried out by making that pulse width of the input signal which is recognized from the sampling signal equal to an inverse number of the sampling clock frequency, irrespective of the pulse width.

94. (New) A waveform shaping program for causing a computer to execute the steps of a waveform shaping method,

wherein:

the waveform shaping method includes:

the sampling step for generating a sampling signal by sampling an input signal using a sampling clock which is faster than a data speed of the input signal; and

the waveform shaping step for processing the sampling signal, so that a pulse in the input signal, recognized from the sampling signal, is shaped,

the waveform shaping step being such that (I) a no-pulse period, which is recognized from the sampling signal, is detected, and (II) if the no-pulse period is less than a setting value, waveform shaping is so carried out, irrespective of a pulse width, as to modify the no-pulse period to the setting value by (i) shifting a position of a pulse adjacent to the no-pulse period or (ii) shaping the pulse.

95. (New) A waveform shaping program for causing a computer to execute the steps of a waveform shaping method,

wherein:

the waveform shaping method includes:

the sampling step for generating a sampling signal by sampling an input signal using a sampling clock which is faster than a data speed of the input signal; and

the waveform shaping step for processing the sampling signal, so that a pulse in the input signal, recognized from the sampling signal, is shaped,

the input signal being a pulse signal generated through a signal processing carried out with respect to an original pulse signal on which the input signal is based,

the waveform shaping step being such that (I) a pulse width recognized from the sampling signal is compared with (i) a first reference value, and (ii) a second reference value which is larger than the first reference value by a constant value, and (II) if the pulse width is equal to or

larger than the second reference value, the pulse width is reduced by the constant value, irrespective of the pulse width.

96. (New) A waveform shaping program for causing a computer to execute the steps of a waveform shaping method,

wherein:

the waveform shaping method includes:

the sampling step for generating a sampling signal by sampling an input signal using a sampling clock which is faster than a data speed of the input signal; and

the waveform shaping step for processing the sampling signal, so that a pulse in the input signal, recognized from the sampling signal, is shaped,

the input signal being a pulse signal generated through a signal processing carried out with respect to an original pulse signal on which the input signal is based,

the waveform shaping step being such that (I) a pulse width recognized from the sampling signal is compared with (i) a first reference value, and (ii) a second reference value which is larger than the first reference value by a constant value, and (II) if the pulse width is equal to or larger than the second reference value, the pulse width is reduced by the constant value, irrespective of the pulse width.

97. (New) A waveform shaping program for causing a computer to execute the steps of a waveform shaping method,

wherein:

the waveform shaping method includes:

the sampling step for generating a sampling signal by sampling an input signal using a sampling clock which is faster than a data speed of the input signal; and

the waveform shaping step for processing the sampling signal, so that a pulse in the input signal, recognized from the sampling signal, is shaped,

the input signal being a pulse signal generated through a signal processing carried out with respect to an original pulse signal on which the input signal is based,

the waveform shaping step being such that (I) a pulse width recognized from the sampling signal is compared with (i) a first reference value, and (ii) a second reference value which is larger than the first reference value by a constant value, and (II) the pulse width is not reduced if the pulse width is equal to or less than the first reference value.

98. (New) A waveform shaping program for causing a computer to execute the steps of a waveform shaping method,

wherein:

the waveform shaping method includes:

the sampling step for generating a sampling signal by sampling an input signal using a sampling clock which is faster than a data speed of the input signal; and

the waveform shaping step for processing the sampling signal, so that a pulse in the input signal, recognized from the sampling signal, is shaped,

the input signal being a pulse signal generated through a signal processing carried out with respect to an original pulse signal on which the input signal is based,

the waveform shaping step being such that (I) a pulse interval recognized from the sampling signal is compared with an interval reference value, and (II) if the pulse interval is less than the interval reference value, the pulse interval is lengthened, irrespective of a pulse width, by (i) shifting a position of a pulse adjacent to the no-pulse period or (ii) shaping the pulse so that the pulse interval is made as close to the interval reference value as possible, the pulse interval being a width of a period having no pulse.

99. (New) A waveform shaping program for causing a computer to execute the steps of a waveform shaping method,

wherein:

the waveform shaping method includes:

the sampling step for generating a sampling signal by sampling an input signal using a sampling clock which is faster than a data speed of the input signal; and

the waveform shaping step for processing the sampling signal, so that a pulse in the input signal, recognized from the sampling signal, is shaped,

the input signal being a pulse signal, of a fixed-pulse-width method, being generated through a signal processing carried out with respect to an original pulse signal on which the input signal is based,

the waveform shaping step being such that (I) a width of the pulse in the input signal is compared with a reference range determined based on the width of the pulse, and (II) if the width of the pulse is out of the reference range, waveform shaping is so carried out as to make the width of the pulse fall within the reference range.

100. (New) A waveform shaping program for causing a computer to function as means of a waveform shaping device, wherein:

the waveform shaping device includes:

sampling means; and

waveform shaping means, wherein

the sampling means samples a pulse signal at a sampling period shorter than a minimum pulse width and a minimum pulse interval in the pulse signal, so as to generate a sampling signal which is a discrete symbol string for replacing the pulse signal, the pulse signal being generated by carrying out a signal processing with respect to an original pulse signal,

the waveform shaping means compares a first symbol count with a first reference value and a second reference value which is a constant value larger than the first reference value, where (i) the first symbol count is a number of symbols in a first symbol string having been replaced for a pulse-existing period, and (ii) a second symbol count is a number of symbols in a second symbol string having been replaced for a no-pulse period adjacent to the pulse-existing period, and

if the first symbol count is equal to or more than the second reference value, the waveform shaping means partially replaces the first symbol string with the second symbol string by the

constant value, irrespective of a pulse width of the pulse signal generated through the signal processing, so as to shorten the pulse-existing period.

101. (New) A waveform shaping program for causing a computer to function as means of a waveform shaping device, wherein:

the waveform shaping device includes:

sampling means; and

waveform shaping means, wherein

the sampling means samples a pulse signal at a sampling period shorter than a minimum pulse width and a minimum pulse interval in the pulse signal, so as to generate a sampling signal which is a discrete symbol string for replacing the pulse signal, the pulse signal being generated by carrying out a signal processing with respect to an original pulse signal,

the waveform shaping means compares a second symbol count with an interval reference value, where (i) the first symbol count is a number of symbols in a first symbol string having been replaced for a pulse-existing period, and (ii) a second symbol count is a number of symbols in a second symbol string having been replaced for a no-pulse period adjacent to the pulse-existing period, and

if the second symbol count is less than the interval reference value, the waveform shaping means partially replaces the first symbol string with the second symbol string in such a manner that the second symbol count is equal to the interval reference value, irrespective of a pulse width of the pulse signal generated through the signal processing, so as to lengthen the no-pulse period.